

Claims

1. A method of preparing random polyhydroxypolyamides, the method comprising the steps of:
 - a) forming a stoichiometrically molar balanced (1:1) aldaric acid : alkylenediamine (or alkylene derived) salt;
 - b) esterifying the aldaric acid unit of the alkylene or alkylene derived diammonium aldarate with an alcohol comprising an acid catalyst;
 - c) polymerizing the molar balanced (1:1) esterified aldaric acid : diammonium disalt in basified alcohol to form a random prepolymer; and
 - d) polymerizing the random prepolymer in a solvent to form the random polyhydroxypolyamide.
2. The method of claim 1, wherein the following is substituted:

forming a stoichiometrically molar balanced 1:1 aldaric acid : alkylenediamine (or alkylene derived) salt and a *N*⁷-ammoniumalkyl (or alkyl derived)-aldaramic acid terminal carboxylate zwitterionic salt mixture, the mixture being then esterified as in b) to the 1:1 esterified aldaric acid : alkylene (or alkylene derived) diammonium salt in mixture with the esterified *N*-ammoniumalkyl (or alkyl derived)-aldaramic acids, that mixture then being polymerized and postpolymerized as in steps c) and d).